PUBLICATIONS

"Potential Competition in Local Telephone Service: The Bell Atlantic-NYNEX Merger." The Antitrust Revolution, J. Kwoka, Jr. and L. White, eds., 3rd edition, Oxford University Press, 1999.

"Telecommunications in the US: Evolution to Pluralism." With S. Besen and J. Woodbury. *ISDN in the USA, Japan, Singapore, and Europe*, B. Lange, ed., 1996.

"Access Charge Theory and Implementation: A Slip Twixt Cup and Lip." Co-author. Proceedings of the Institute of Public Utilities' Fifteenth Annual Conference, 1984.

"Toward Competition in Phone Service: A Legacy of Regulatory Failure." With N. Cornell and M. Pelcovits. *Regulation*, July/August 1983.

"The Effect of Viewer Behavior on Reception and Viewing of UHF Television." Co-author. Proceedings of the IEEE 70, No. 11, November 1982.

"UHF Viewing and Television Channel Selector Type." Co-author. *Staff Report*, UHF Comparability Task Force, Office of Plans and Policy, Federal Communications Commission, February 1982.

"Comparability for UHF Television: A Final Report. Co-author." Staff Report, UHF Comparability Task Force, Office of Plans and Policy, Federal Communications Commission, September 1980.

"Comparability for UHF Television: A Preliminary Report." Co-author. Staff Report, UHF Comparability Task Force, Office of Plans and Policy, Federal Communications Commission, September 1979.

UNPUBLISHED PAPERS

"Testing for Cross-Subsidies by Regulated Telecommunications Firms." Co-author. Presented at the Institute of Public Utilities' Twentieth Annual Conference, 1988.

"The Economic Choices of Broadcasting and Viewers." Staff Report, UHF Comparability Task Force, Office of Plans and Policy, Federal Communications Commission, placed in General Docket 78–391, June 1982.

"Protectionist Interests and the Trade Agreements Program." Presented at the Eastern Economics Association Meeting, Washington, D.C., May 1978.

"Economic Interests and the Trade Agreements Program." Ph.D. dissertation, Stanford University, 1977.

TESTIMONY—REGULATORY COMMISSIONS

Public Service Commission of Alabama

- In the matter of the Application of GTE Sprint Communications Corporation for a Certificate of Public Convenience and Necessity to Offer Intercity Telecommunications Services to the Public in the State of Alabama, Docket No. 18985, March 1, 1984.
- Arizona Corporation Commission
 - In the Matter of the Application of Satellite Business Systems for Authority to Provide Intrastate Telecommunications Services in Arizona, Docket No. U-2457-85-062, June 14, 1985.
- Public Utilities Commission of California
 - In the matter of the Joint Application of GTE Corporation and Bell Atlantic Corporation to Transfer Control of GTE's California Utility Subsidiaries to Bell Atlantic, Which Will Occur Indirectly as a Result of GTE's Merger with Bell Atlantic, Application 98-12-005, July 22, 1999.
 - In the matter of the Joint Application of Pacific Telesis Group and SBC Communications Inc. for SBC to Control Pacific Bell (U1001C), Which Will Occur Indirectly as a Result of Telesis' Merger With a Wholly Owned Subsidiary of SBC, SBC Communications (NV) Inc., Application No. 96-04-038, November 22 and 25, 1996.
- Public Utilities Commission of the State of Colorado
 - Application No. 36337, Application No. 36360, Application No. 36456, Case No. 6386, November 9, 1984.
- Florida Public Service Commission
 - In Re: Application of AT&T Communications of the Southern States, Inc. for a Certificate of Public Convenience and Necessity/Motion for Waiver of Tariff Filing Requirements, Docket No. 830489-TI, September 4, 1986.
 - In Re: Intrastate Telephone Access Charges for Toll Use of Local Exchange Services, Docket No. 820537-TP, (Phase II) October 1, 1984.
 - In Re: Intrastate Telephone Access Charges for Toll Use of Local Exchange Services, Docket No. 820537-TP, June 6, 1984.
- Georgia Public Service Commission
 - In Re: Petition by MCI for Arbitration of Certain Terms and Conditions of Proposed Agreement with BellSouth Telecommunications, Inc. Concerning Interconnection and Resale Under the Telecommunications Act of 1996, Docket No. 6865-U, November 6, 1996.
- Illinois Commerce Commission

 Illinois Commerce Commission on its Own Motion, Investigation Concerning the Appropriate Methodology for the Calculation of Intrastate Access Charges for All Illinois Telephone Utilities, Docket No. 83-0142, November 29, 1984.

Public Service Commission of Indiana

- In the Matter of the Petition of AT&T Communications of Indiana, Inc. for Commission Declination to Exercise Jurisdiction over Telephone Companies Providing Intrastate InterLATA Facilities-Based Telecommunications Services, Cause No. 37911; In the Matter of the Petition of GTE Sprint Communications Corporation for an Investigation and Determination of the Form of Regulation Applicable to Telephone Companies Providing Competitive Intrastate, Intercity Telecommunications Services, but not Local Exchange Services, within Indiana, Cause No. 37557; Petition of MCI Telecommunications Corporation for an Investigation by the Public Service Commission of the State of Indiana into the Type and Scope of Regulation Which Should Be Applied to Nondominant Carriers Providing Intrastate Interexchange Telecommunications Services, Cause No. 37559, May 5, 1986.
- State of Iowa Department of Commerce Utilities Division
 - In Re: Northwestern Bell Telephone Company, Docket No. RPU-88-9, January 10-11, 1989.
- Public Utilities Commission, State of Kansas
 - In the Matter of a General Investigation into the Rates Tariffs, Policies and Practices of Public Telephone Utilities Relating to Customer Premises Equipment (Regulation of Interexchange Carriers and IntraLATA Competition), Docket No. 127,140-U (Phase IV), October 16, 1984.
- Public Service Commission of Kentucky
 - In Re: Joint Application of Bell Atlantic Corporation and GTE Corporation for Order Authorizing Transfer of Utility, Case No. 98519, March 3, 1999.
- Louisiana Public Service Commission
 - Docket No. U-15955 in conjunction with Docket No. U-15995, Docket No. U-15457,
 Docket No. U-16012, June 19, 1985.
- Department of Public Utilities, Commonwealth of Massachusetts
 - DPU 1655/1633, January 6, 1984.
 - DPU 89-78 New England Telephone and Telegraph Company Toll Calling Plans, testimony filed June 1988.
- Michigan Public Service Commission

- In the Matter of the Application of AT&T Communications of Michigan, Inc., for Authority to Amend its Rate Schedules and Tariffs and Miscellaneous Rules and Regulations Governing its Telephone Communications Service, Case No. U-8039, March 25, 1985.
- Minnesota Public Service Commission
 - In Re: A Summary Investigation into Intrastate Switched Access Charges Proposed by Northwestern Bell Telephone Company for its Minnesota Customers, Docket No. P-421/CI-85-352.
- Mississippi Public Service Commission
 - In Re: Petition of MCI Telecommunications Corporation for a Certificate of Public Convenience and Necessity to Render Intrastate Telecommunication Service within Mississippi and for Approval of Proposed Tariff, Docket No. U4633, March 21, 1985.
- State of New York Public Service Commission
 - Proceeding on the Motion of the Commission as to the Rates, Charges, Rules and Regulations of New York Telephone Company, NYNEX Corporation and Bell Atlantic Corporation For a Declaratory Ruling That the Commission Lacks Jurisdiction to Investigate and Approve a Proposed Merger Between NYNEX and a Subsidiary of Bell Atlantic or, in the Alternative, For Approval of the Merger, Case 96-C-0603; and Petition of the Commission as to the Rates, Charges, Rules and Regulations of the New York Citizens Utility Board, the Consumer Federation of America, the American Association of Retired Persons, Consumers Union, Mr. Mark Green, Ms. Catherine Abate, the Long Island Consumer Energy Project and the International Brotherhood of Electrical Workers T-6 Council (collectively the "Consumer Coalition") For An Investigation of the Proposed Merger of NYNEX Corporation and Bell Atlantic Corporation, Case 96-C-0599, December 16, 1996.
- Nevada Public Service Commission
 - In the Matter of the Petition of AT&T Communications of Nevada, Inc., for Adoption of Rules and Regulations Governing Competitive Telecommunications Services in the State of Nevada, Docket No. 84-758, December 20, 1984.
 - In Docket No. 84-443 on behalf of MCI Telecommunications Corporation, and in Docket No. 84-605 on behalf of GTE Sprint Communications Corporation; testimony filed August 1, 1984.
- Oklahoma Corporation Commission
 - In the Matter of the Application of GTE Sprint Communications Corporation for a Certificate of Public Convenience and Necessity to Offer Intercity Telecommunications Services to the Public in the State of Oklahoma, Cause No. 28780, May 15, 1984.
- Pennsylvania Public Utility Commission

- In Re: Joint Application of Bell Atlantic Corporation and GTE Corporation for Approval
 of Agreement and Plan of Merger, PUC Docket Nos. A-310200F0002, A-310222F0002,
 A-310291F003, A-311350F0002, June 4, 1999.
- Tennessee Public Service Commission
 - In Re: Application for Certificate of Public Convenience and Necessity of GTE Sprint Communications Corporation, Docket No. U-84-7326, January 17, 1985.
 - In the Matter of: Tariff Filing by AT&T Communications to Establish Rates and Charges for MEGACOM and MEGACOM 800 Services; Tariff Filing by US Sprint to Establish Rates and Charges for ULTRAWATS; Tariff Filing by MCI Telecommunications for PRISM I and PRISM II; Tariff Filing by US Sprint to Establish Rates and Charges for DIRECT 800 and ULTRA 800 Services; Docket Nos. U-87-7492, U-87-7512, U-87-7513, U-87-7514, U-87-7515, September 3, 1987.
- Tennessee Regulatory Authority
 - Docket No. 96-01152, October 21-22, 1996.
- Public Utility Commission of Texas
 - Hearing on the Stipulation, Docket 8585, May 24, 1990.
 - Application of AT&T Communications of the Southwest, Inc. to Remove the Tariff Restriction on its "Reach Out Texas" Offering, Docket No. 6761, January 19, 1987.
 - Petition of the General Counsel for Initiation of an Evidentiary Proceeding to Establish Telecommunications Submarkets, Docket No. 6264, September 27, 1986 and September 30, 1986.
 - Petition of Southwestern Bell Company for Approval of Tariff to Allow Customers to Install and Maintain Inside Wire, Docket No. 5141, October 24, 1983.
- Public Service Commission of Utah
 - In the Matter of the Investigation of Access Charges for Intrastate IntraLATA and InterLATA Telephone Services, Case No. 83-999-11, November 20, 1984.
- State of Vermont Public Service Board
 - In Re: Investigation of Telephone Toll Settlements and Investigation into Telephone Intrastate Tariffs for Access to the Local Exchange Network and Petition of Burlington Telephone Company Requesting the Board to Find that the Restriction of Resale of Wide Area Telephone Service (WATS) in New England Telephone Company Tariff PSB VT. 20 Section 10.2.1.A Is Invalid, Case Nos. 5092, 5114, 4946, April 2, 1987.
- Public Service Commission of Wisconsin

Investigation of the Proposed InterLATA Access Charge Tariff of Wisconsin Bell, Inc., The Intrastate Capacity Plan and Other Related InterLATA Compensation Matters. Case No. 6720-TR-100, February 26, 1987.

TESTIMONY—COURT CASES

- Federal Trade Commission vs. McKesson Corporation and AmeriSource Corporation, in United States District Court for the District of Columbia, Civil Action No. 98-596, May 4, 1998, May 5, 1998, May 8, 1998, and July 13, 1998.
- Hayes Microcomputer Products, Inc., a/k/a Practical Peripherals, Inc., in United States Bankruptcy Court for the Northern District of Georgia, Atlanta Division, Case No. 94-75900, Affidavit Filed and Appearance, November 9, 1995.
- City of Chicago vs. Western Union ATS, Inc., in US District Court for the Northern District of Illinois, Case No. 91C156, Deposition Testimony, March 17, 1993.
- Williams Telecommunications Company vs. Larry C. Gragg and Phyllis J. Gragg, St. Lawrence Catholic Center et al. vs. Williams Pipe Line Company et al., in the District Court of Shawnee County, Kansas, Division Six, Case Nos. 86-CV-1130, 86-CV-1205 (Consolidated), December 17, 1986.

TESTIMONY—CONGRESSIONAL

 Before the House Judiciary Committee, Subcommittee on Courts, Civil Liberties, and the Administration of Justice (Repeal of the First Sale Doctrine), October 6, 1983.



LORENZO COPPI

Vice President

Ph.D. Economics, London School of Economics and Political Sciences

M.Sc. Economics, London School of Economics and Political Sciences

Laurea Economics, Università Commerciale Luigi Bocconi, Cum Laude

Previously a member of CRA's European Competition Practice, Dr. Coppi is now a member of the firm's Competition Practice in Washington, DC. Dr. Coppi specializes in applied industrial organization, game theory, microeconomics, antitrust economics, and regulation. He has worked on a variety of US, EC and UK mergers as well as on projects involving various allegations of anticompetitive practices under Sections 1 and 2 of the Sherman Act; Articles 81 and 82 of the EU Treaty; and Chapter II provisions of the UK Competition Act. Dr. Coppi's analytic focus has been on merger analysis, market definition, assessment of market power, abusive pricing practices, collusion and cartel detection, and tying/bundling. His sector expertise includes various high technology industries, telecommunications, media, the beverage and distilled spirits industries, retailing, chemicals, and several consumer good industries.

PROFESSIONAL EXPERIENCE

Mergers

DOJ/FTC

- Procter & Gamble/Gillette: Economic support and econometric analysis during the second request.
- GE/lonics: Economic support during the HSR filings.
- Steel Manufacturer: Competition policy advice to a steel manufacturer contemplating an acquisition.
- GE/Instrumentarium: Economic support during the second request.
- Veeco/FEI: Economic support during the second request.

- Manufacturers of Fire Safety Products: Pre-filing anti-trust analysis of the transaction.
- Nucor/Birmingham: Preparation of a white paper on geographical market definition.
- Walmart/Amigo: Economic support during the second request. Preparation of white papers regargarding product and geographical market definition.
- Hewlett Packard/Compaq: Economic support in the context of the merger review by the FTC.

DGComp (European Union)

- Apollo/Bakelite: Economic support in the context of the merger review by the European Commission.
- GE/Instrumentarium: Economic support in the context of the merger review by the MTF.
- Hewlett Packard/Compaq: Ongoing economic support in the context of the firms' proposed merger review.
- Interbrew/Becks: Preparation of an expert report on market definition in the UK beer market, showing that a narrow market definition (premium lager beer) was contradicted by the available empirical evidence.
- Pernod Ricard-Diageo/Seagram: Economic support and competition policy advice on the issue of portfolio power/range effects, as well as preparation of market share data and brand analysis for the Phase 1 merger notification.
- MCI-WorldCom/Sprint: Preparation of a submission on joint dominance during Phase 2 of the merger investigation. Joint dominance was eliminated from the final (adverse) decision.
- Vivendi/BskyB: Preparation of a third-party submission in the context of the Phase 2 merger investigation. Market definition and dominance in the pay-TV rights markets were the central issues.
- Tobacco manufacturer: Economic support and competition policy advice to a tobacco manufacturer seeking to acquire a rival. Preparation of a report exploring the strengths and weaknesses of alternative market definitions. Wider competition policy advice was also provided.
- BT/AT&T: Preparation of a submission regarding the market definition implications of the
 convergence of fixed and mobile telephony markets. Presented to the EC in the context of a
 Phase 2 merger investigation, this submission led to the deal being approved with conditions.
- Cement manufacturer: Competition policy advice to counsel and auditing of economic reports
 in the context of a Phase 2 investigation of the proposed merger of two large cement producers.

European National Authorities

- Interbrew/Bass: Competition policy advice during the merger inquiry by the Competition Commission. Joint dominance and vertical foreclosure were the main issues.
- Saft/Tadiran: Economic advice to Alcatel (Saft's parent) during a merger investigation by the Bundeskartellamt in Germany. Coordinated effects were the focus of the investigation.
- ntl/CWC: Economic support, competition policy advice, and drafting of the submission for the Competition Commission. Market definition and open access to the network were the main issues.
- Thorn/Granada: Competition policy advice and economic support to the parties, two electrical
 goods rental companies, in the context of their merger notification to the Office of Fair Trading
 (OFT). Market definition and price discrimination were the main issues.
- RAC/Green Flag: Economic support and competition policy advice to two of the three large motoring organizations during a merger inquiry by the MMC (now Competition Commission).
 Market definition and failing-firm defense were the main issues.

Antitrust Litigation

US Courts / Agencies

- Media Research Services: Competition policy support in a private litigation involving an alleged violation of Section 2 of the Sherman Act
- Online music: Competition policy support in a private litigation involving an alleged violation of Section 1 and 2 of the Sherman Act.
- **Printer Cartridges:** Empirical and competition policy support in a private litigation involving an alleged violation of Section 1 and 2 of the Sherman Act.
- Online marketplaces: Competition policy support in an antitrust investigation of online marketplaces by a State AG office.
- Wireless technologies: Competition policy support in a private litigation involving an alleged violation of Section 2 of the Sherman Act.
- Icann: Competition policy advice and economic support to Icann in the context of DOJ's review
 of their Internet domain registry contracts.
- Sun/Microsoft: Competition policy advice and economic support to Sun in their antitrust litigation against Microsoft.
- Hydrogen peroxide: Empirical analysis in the context of a price-fixing class action.

- New Cars: Empirical analysis in the context of a DOJ criminal price-fixing investigation, and related class action.
- ConAgra: Empirical support in an alleged infringement of Sherman Act, §2.
- Rubber Chemicals: Empirical analysis in the context of a DOJ criminal price-fixing investigation, and related class action.
- Plastics Additives: Empirical analysis in the context of a DOJ criminal price-fixing investigation, and related class action.
- Eurimex: Supported the expert in preparing his expert witness report on market definition and monopolization in the distribution of granite for architectural use.

European Courts / Regulators

- Eni/TTPC: Expert report in the context of Eni's court appeal (TAR) of the Italian Authority (AGCM) decision to fine Eni for a violation of Art. 82 (abuse of a dominant position).
- Wireless technologies: Competition policy support in an investigation by the European Commission on a possible violation of Art. 82.
- TTPC: Report to the Italian Authority (AGCM) on the appropriate tariff to remedy an alleged breach of Art. 82 (abuse of a dominant position).
- PC semiconductors: Competition policy support in an investigation by the European Commission on a possible violation of Art. 81 and Art. 82.
- Printer cartridges: Prepared and coauthored an expert report on market definition in the context of an Art. 82 investigation on an alleged abuse of a dominant position.
- World Snooker Association: Collaborated in the preparation of an expert witness report on market definition, dominance, and whether restrictions on players were anticompetitive.
- Office of the Rail Regulator: Assisted the ORR in its investigation of EWS, the largest UK
 player in rail freight. Prepared a report on market definition and assessment of dominance in
 the markets for locomotives and rail freight.
- Newspaper distributor: Economic support and competition policy advice on the implications of a competitor's proposed arrangements in the area of magazine distribution in the UK. Also prepared a report on market definition.
- Bacardi: Preparation of an expert report on market definition in the spirits industry in the context of an investigation of exclusive discounts.

- National Federation of Retail Newsagents: Economic support and competition policy advice
 on the implications of present newspaper distribution arrangements in the UK. Preparation of a
 report on the economics of vertical restraints, with special emphasis on exclusive geographical
 distribution.
- AC Nielsen: Supported the client in the context of litigation in the United States regarding the
 competitive implications of the firm's discount policy in the European Union. Bundling,
 "fidelising discounts," and predation were the issues under consideration.
- Glaxo-Wellcome: Helped preparing a submission to the European Commission on the issue of parallel imports from other EU countries. Asked to justify the resale restrictions imposed on wholesalers.
- United International Pictures: Prepared a submission to the European Commission in the context of the request for an exemption to the rules prohibiting horizontal agreement.

Regulatory

- **Telecom Italia**: Report to the Italian Telecom Regulator (AGCOM) on the proposed regulation of Telecom Italia's tariffs to large business clients.
- Pay-TV operator: Advised and supported the client in the context of an OFT inquiry into BSkyB's wholesale practices.
- Tesco: Competition policy advice to the largest UK multiple grocer during a market review by the OFT and, subsequently, by the Competition Commission. No adverse public interest effects were found.
- Calor Gas II: Assessing competition law compliance by the distribution and franchise
 arrangements of the largest UK supplier of liquefied gas products. The arrangements were not
 challenged by the OFT.
- Calor Gas I: On behalf of a major supplier of liquefied gas products, submission to the OFT on whether past non-price discrimination undertakings were being respected. The OFT decided the client was in compliance.
- Valpak: Submission to the OFT on behalf of a major player in the UK recycling sector challenging a competitive scheme. The competitive scheme was not authorized.

Other Competition

Internet search engine: Economic and competition policy support.

- Brighton Palace Pier: Economic and competition policy support for a UK leisure operator in its State Aid complaint against the use of State funds to refurbish and relaunch a competitive pier leisure site in Brighton.
- Mediaset: Support to an Italian commercial television broadcaster in its State Aid complaint
 against RAI, the government-owned public service broadcaster. Prepared a report analyzing
 whether RAI's restructuring plan satisfied the Community criteria against State Aid.
- ntl: Submission to the European Commission on the inclusion of a joint dominance test in the provisions regarding operators with Significant Market Power.
- AGCOM: Collaborated on a report for the Italian telecom regulator regarding the economic implications of exclusivity in broadcasting sports rights.
- Tesco: Competition policy advice to Tesco, the largest UK multiple grocer, seeking to acquire a
 competitor. Prepared a report on the positioning of different players in the market. The deal
 was never concluded.
- Blue Circle: Competition policy advice and empirical support to Blue Circle, a large cement
 producer, seeking to acquire a competitor. Collaborated in preparing an econometric study
 concerning the effect of the merger on prices in different regions. The deal was abandoned.
- ntl and CWC: On behalf of two major cable operators, economic support and preparation of a variety of submissions to the ITC and Oftel regarding the bundling of telephony and pay-TV services.
- Westel: Competition policy and regulatory advice to a Hungarian GSM mobile operator regarding the licensing of 1800 MHz spectrum.

Other Areas

- Bass: Collaborated in providing pricing advice to a major UK brewer.
- RAI: Strategic advice on the acquisition of sports rights for a major European public service broadcaster.
- BBC: Advice to the UK public service broadcaster on different sources of funding in the context
 of consultations on the future of public service.
- British Gas: Strategic advice on the introduction of new LNG transport technologies.



SELECTED PUBLICATIONS AND PRESENTATIONS

'Remarks on the Monopolization of Automotive Aftermarkets' - The American Antitrust Institute Annual Conference, June 21, 2007

'Aftermarket Monopolization: the Emerging Consensus in Economics' – *The Antitrust Bulletin*, Spring-Summer 2007

'Abuse of Joint Dominant Position and Joint Monopolization: What's the point?' - The Sedona Conference, October 25-26, 2006

'Competition Issues in B2B Exchanges' presented at the FTC Internet Auction Conference, October 27, 2005

'Plugging the Hole: "New" Unilateral Effects Analysis in the EU' presented at the George Mason Law Review Antitrust Symposium, September 20, 2005

'Substantial convergence or parallel paths? – Similarities and differences in the economic analysis of horizontal mergers in US and EU competition law' – *The Antitrust Bulletin*, Spring-Summer 2004, with M. Walker

'Merger Assessment in Oligopolistic Markets: Lessons from Interbrew/Bass' – Loughborough University, Business School Research Series Paper 2002: 5, Dec. 2002, with Prof. P. Dobson

'The Importance of Market Conduct in the Economic Analysis of Mergers' – European Competition Law Review, vol. 23, issue 8, Aug. 2002, with Prof. P. Dobson

WORKING PAPERS

'Competitive Price Discrimination with Differentiated Goods', mimeo, with Prof. P. Dobson

'Constrained Equilibria in the Global Beer Industry', mimeo

'Does Technological Convergence Lead to an Escalation of R&D Expenditure?', mimeo

PRIOR EMPLOYMENT POSITIONS

1997–2000 Senior Consultant, London Economics



SERGE MORESI

Vice President

Ph.D. Economics Massachusetts Institute of Technology

M.A. Economics Université de Lausanne (Switzerland)

B.A. Economics Université de Lausanne (Switzerland)

Dr. Moresi is the Director of Competition Modelling. He is an expert in the theory of industrial organization and specializes in applied game theory, including auction and bargaining models. In addition to developing theoretical models and simulation programs dealing with strategic pricing behavior, Dr. Moresi has provided clients with expert economic consulting services in many antitrust and merger cases. He has contributed to several staff filings before federal agencies in a variety of industries. Before joining CRA, Dr. Moresi taught economics at Georgetown University. His research interests include several topics in the economics of information and uncertainty.

PRIOR PROFESSIONAL EXPERIENCE

1997 Economic Consultant, The Brattle Group, Washington, D.C.

Electricity industry restructuring projects (simulation models, auction design).

Antitrust cases: price fixing (gasoline), discrimination (gas pipeline).

1991–1998 Assistant Professor, Georgetown University, Washington, D.C.

Ph.D. courses: general equilibrium theory, game theory, contract theory.

B.A. courses: microeconomic theory, applied game theory.

1995 Invited Professor, Université de Lausanne, Switzerland

Graduate lectures on the microstructure of financial markets.

1994 Visiting Researcher, University of Maryland, College Park, MD

Research on the competitiveness of decentralized markets.

1994 Economic Consultant, World Bank, Washington, D.C.

Analysis of the international competitiveness of Morocco.

1989 Economic Consultant, State of Ticino, Switzerland

Econometric analysis of the housing rental market.

SELECTED CONSULTING EXPERIENCE

In the context of the Harland/Clarke merger: Development of theoretical economic models of tournament competition (e.g., "beauty contests" and "bidding contests") with risky investments in product quality.

In the context of the Sprint/Nextel merger: Development of a merger simulation model with capacity constraints and potential coordinated effects.

In the context of DOT's NPRM proposals regarding computer reservation system regulations:

Development of theoretical and simulation models of vertical foreclosure in bargaining markets.

In the context of the proposed GE/Honeywell merger: Development of theoretical economic models of mixed bundling strategies.

In the context of the proposed Heinz/Beechnut merger: Development of a merger simulation model that accounts for (a) potential price effects at both the manufacturing level and the retailing level, and (b) potential efficiencies in the form of cost savings and quality increases.

In the context of the CBS/Viacom merger: Development of a theoretical economic model of the entry investment process in the programming industry.

SELECTED CONSULTING REPORTS

"Listening To and Understanding Customers' Views: M & F Worldwide Corp.'s Proposed Acquisition of John H. Harland Company." With Andrew Dick. Submitted to the Department of Justice on behalf of M & F Worldwide Corp., 2007.

"Vertical Competition Issues in the Proposed Toll/Patrick Merger." With Henry Ergas, Gary Roberts, Mike Smart, Chris Pleatsikas and Astrid Jung. Submitted to the Australian Competition and Consumer Commission on behalf of Toll Group, 2005.

"News Corporation's Partial Acquisition of DIRECTV: Economic Analysis of Vertical Foreclosure Claims." With Steven C. Salop, Carl Shapiro, David Majerus and E. Jane Murdoch. Submitted to the Federal Communications Commission on behalf of DIRECTV, 2003.

Technical appendix to "Economic Analysis of DOT's NPRM Proposals." With Steven C. Salop and John R. Woodbury. Submitted to the Department of Transportation on behalf of Sabre, Inc., 2003.

Co-authored report on the potential unilateral effects of a merger in the personal care industry. Submitted to the Department of Justice, 2001.

Co-authored report on the potential effects of partial ownership interests in the luxury goods industry. Submitted to the European Commission, 2001.

"An Economic Analysis of the Effects of the AT&T-MediaOne Merger on Competition in the Supply and Distribution of Video Program Services: Response to the Critics." With Stanley M. Besen and John R. Woodbury. Submitted to the Federal Communications Commission on behalf of Sprint Communications Company, L.P., 1999.

"An Economic Analysis of the Effects of Partial Ownership Interests in Cable Systems." With Stanley M. Besen, Daniel P. O'Brien and John R. Woodbury. Submitted to the Federal Communications Commission on behalf of Tele-Communications, Inc., 1998.

PUBLICATIONS

"A Few Righteous Men: Imperfect Information, Quit-for-Tat and Critical Mass in the Dynamics of Cooperation," With Steven C. Salop. *Economics for an Imperfect World: Essays in Honor of Joseph E. Stiglitz*. Edited by R. Arnott, B. Greenwald, R. Kanbur, and B. Nalebuff. MIT Press, Cambridge, Massachusetts, 2003.

"Information Acquisition and Research Differentiation Prior to an Open-Bid Auction." *International Journal of Industrial Organization*, 2000.

"Uncertain Lifetime, Risk Aversion and Intertemporal Substitution." Economics Letters, 1999.

"Front-Running by Mutual Fund Managers: A Mixed Bag" (with Jean-Pierre Danthine). European Finance Review, 1998.

"Optimal Taxation and Firm Formation: A Model of Asymmetric Information." European Economic Review, 1998.

"Pure and Utilitarian Prisoner's Dilemmas." With Steven Kuhn. Economics and Philosophy, 1995.

"Volatility, Information, and Noise Trading." With Jean-Pierre Danthine. European Economic Review, 1993.

UNPUBLISHED ARTICLES

"Ricardian Equilibrium with Stochastic Free Entry." With Steven C. Salop. Mimeo, 2001.

"Decentralized Trading and the Walrasian Outcome: On the Importance of Search Costs." Mimeo, 1997.

"Optimal Consumption When Mortality Rates Are Not Constant: Time Consistency and the Role of Life Insurance Markets." With John Cuddington. Working Paper No. 95-06, Georgetown University, 1995.

"Insider Trading: Fundamentals-Information versus Trade-Information." With Jean-Pierre Danthine. Working Paper No. 94-01, Georgetown University, 1994.

"Intermediation in Markets with Sequential Bargaining and Heterogeneous Buyers and Sellers." Ph.D. Thesis: Essay 1. MIT, 1991.

"Enchères et Contrats Linéaires Optimaux." M.A. Thesis: No. 12. DEEP, Université de Lausanne, Switzerland, 1986.

WORK IN PROGRESS

"A Model of Sequential Bargaining." With Steven C. Salop and Yianis Sarafidis.

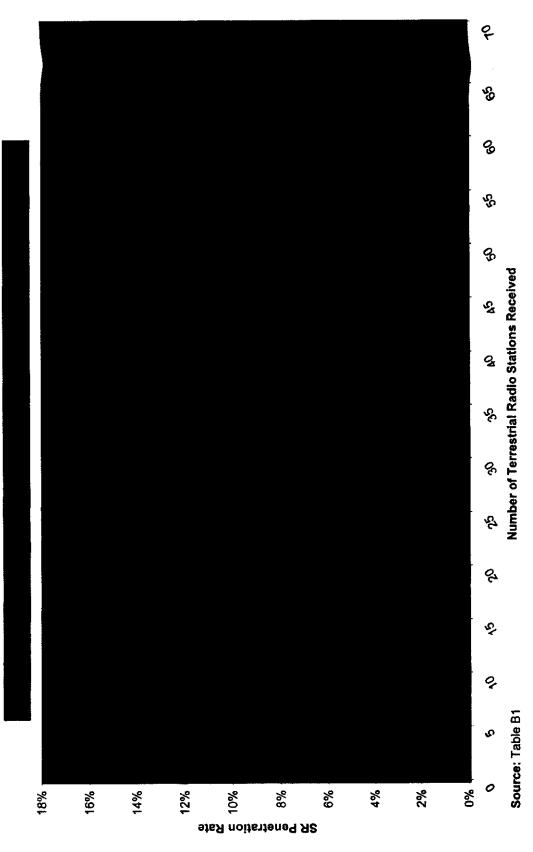
"Mergers in Bargaining Markets." With Steven C. Salop.

"Bilateral Bargaining: A Pedagogical Note." With Steven C. Salop.

REFEREE REPORTS

American Economic Review, Economic Theory, European Economic Review, International Economic Review, Journal of Economic Theory, Journal of Economics, RAND Journal of Economics.

FIGURE B1

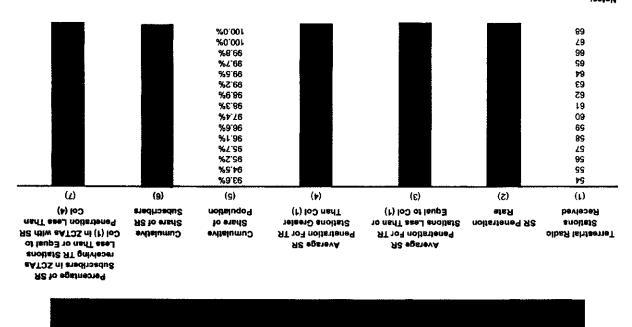


FOR PUBLIC INSPECTION

TABLE B1

(1) (2) (3) (4) (5) (6) (7) 0 1 1 0.0% 0.1% 0.2% 3 4 0.5% 4 5 0.6% 7 7 2.9% 8 9 4.1% 9 7 4.1% 10.2% 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Terrestrial Radio Stations Received	SR Penetration Rate	Average SR Penetration For TR Stations Less Than or Equal to Col (1)	Average SR Penetration For TR Stations Greater Than Col (1)	Cumulative Share of Population	Cumulative Share of SR Subscribers	Percentage of SR Subscribers in ZCTAs receiving TR Stations Less Than or Equal to Col (1) in ZCTAs with SR Penetration Less Than Col (4)
1	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	0				0.0%		
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	53						

TABLE B1



to allow ZIP code and census block data to be merged. by ZCTA population to determine the satellite radio penetration in each ZCTA. ZIP Code Tabutation Areas (ZCTAs) were developed by the Census Bureau 1. Subscribers with valid ZIP codes were assigned to the ZCTA that corresponds to their ZIP code, and the number of subscribers in each ZCTA was divided

census blocks contained within the ZCTA. Thus, the average satellite radio penetration reported for ZCTAs receiving 2 AMFM stations is the average 3. The number of AM/FM stations received in each ZCTA is the population-weighted sverage of the number of AM/FM stations received in each of the dBu contour for FM stations to determine the number of AM or FM stations reaching the centroid of each census block in the lower 48 states. 2. Data on the number of AM/FM stations received in a census block are from BIA Research, Inc. and use the 2 mV/m contour for AM stations and the 60

eneutration for all ZCTAs receiving (on average) 1.5 to lewer than 2.5 AMVFM stations.

subscribers that could be assigned to ZCTAs and thus are in the data set used for these 5. Column 6 reports the cumulative share of satellite radio 4. Column 5 reports the cumulative share of population in the lower 48 states.

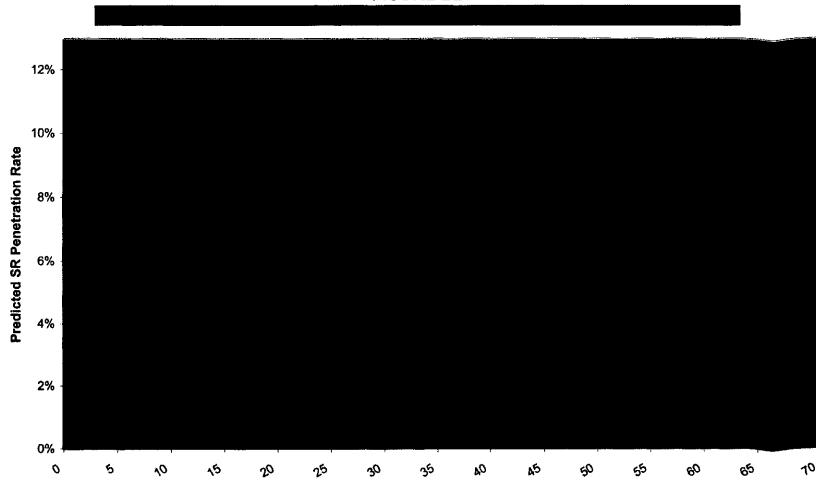
Terrestrial radio coverage and population data from BIA Research, Inc.

Block, ZIP code, and ZCTA, see Summary File 1, 2000 Census of Population and Housing, Technicsi Documentation, Issued March 2005. Data on XM and Sirlus subscribers as of 475/2007

Census, ZIP code, ZCTA, and population data from U.S. Census 2000 State Geography Files. For technical documentation on mapping between Census

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FIGURE B2



Number of Terrestrial Radio Stations Received

Note: Predicted SR penetration calculated from the maximum likelihood grouped data probit estimates reported in Table B2, with other regressors set equal to their median value.

TABLE B2

Maximum Likelihood Grouped Data Probit Estimates

Dependent Variable = SR Penetration Rate

Regressors	Coefficients and t Statistics
TR Signais	
TR Signais*2	
TR Signals^3	
TR Signats^4	
TR Signals^5	
Income	
Income^2	
% Go to Work by Car	
% Live in Urban Area	
% Go to Work by Car * % Live in Urban Area	
% Female	
Constant	
Number of Observations	

Notes:

- 1. Coefficients are in bold, and t statistics are in brackets: * Significant at 10%; ** Significant at 5%; *** Significant at 1%
- 2. Errors clustered by 3-digit ZCTAs.
- 3. "TR Signals" defined as the average number of AM/FM stations available in a ZCTA divided by 10.

Source: Source data for Table B1 and U.S. Census 2000 American Fact Finder data.

TABLE C1
Audio Entertainment Market 2006
Summary of Share Estimates

	Time Spent Listening	Revenue	Ni Ni	Household			
Audio Source	Estimate 1		Estimate 1	Estimate 2	Estimate 3	Ownership	
	(1)	(2)	(3)	(4)	(5)	(6)	
Satellite Radio		4.7%				4.7%	
Sirius		1.9%				2.2%	
XM		2.8%				2.6%	
Terrestrial Radio		64.7%				48.0%	
Internet Radio		-				N/A	
Physical Audio Media (CD's etc.)		27.5%				•	
Digital Audio Media (Downloads, etc.)		2.6%				-	
Subscription Services		0.6%				•	
MP3 Player		•				13.7%	
Mobile Phone w/music etc.		-				9.5%	
Podcasting		-				N/A	
Broadband Access		-				24.0%	
Total	100%	100%	100%	100%	100%	100%	
Change in HHI		11				11	

Source: Tables C3-C6

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TABLE C2
Audio Entertainment Market 2006
Summary of Terrestrial Plus Satellite Radio Shares

	Time	Spent Liste	ening	Revenue	Number	Household	
Audio Source	Estimate 1	Estimate 2	Estimate 3		Estimate 1	Estimate 2	Ownership
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Satellite Radio			3.4%	6.8%			9.0%
Sirius			1.5%	2.7%			4.1%
XM			1.9%	4.0%			4.8%
Terrestrial Radio			96.6%	93.2%			91.0%
Total	100%	100%	100%	100%	100%	100%	100%
Change in HHI			6	22		····	40

Source: Tables C3-C6

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Audio Entertainment Market 2006 Shares of Time Spent Listening

		Estimate 1	l	Estin	Estimate 3		
Audio Source	Weekly TSL (hrs) (1)	Shares	Shares (Terrestrial & Satellite Radio Only) (3)	Weekly TSL (hrs) (4)	Shares (Terrestrial & Satellite Radio Only) (5)	Shares (Terrestrial & Satellite Radio Only) (6)	
Satellite Radio				ļ		3.4%	
Sirius						1.5%	
XM						1.9%	
Terrestrial Radio	4,363,313,402			4,447,691,395		96.6%	
MP3 Player	949,094,764			-			
Internet Radio	682,969,853			-	[
Podcasting	-			-	1		
Mobile Phone w/music etc.	68,291,390			-			
CD Players	-			-	İ		
Total		100%	100%		100%	100%	
Change in HHI						6	

Notes and Sources:

The change in HHI is calculated as equal to 2 x (XM share) x (Sirius share). Appropriate overall HHI levels for the market, either premerger or post-merger, cannot be calculated from these shares. With the exception of XM and Sirius, these are the shares of various sources of audio entertainment rather than of individual suppliers.

Estimate 1

- Weekly hours of listening to XM: Calculated from

 Weekly hours of listening to Sirius:
- 3. Weekly hours of listening to terrestrial radio, MP3 players, and internet radio: Calculated from the percent of the population using each and the weekly time spent listening to each medium (from Bridge Ratings Press Release, 2007 Competitive Media Usage Overview (January 3, 2007), available at http://www.bridgeratings.com/press.01.03.07.CompMediaUse.htm (last visited July 17, 2007) and estimate of U.S. population aged 12+ as of January 1, 2007 (from Arbitron, Radio Nationwide Reference Guide (Fall 2008) at 4).
- 4. Weekly hours of listening on mobile phones: Calculated using estimates of the percentages of wireless subscribers using various mobile audio features in past 30 days and of the weekly time spent listening to various sources of music on mobile phones (from Arbitron/Telephia, *The Mobile Audio Media Study* (2007) at 6, 8). The percentage of mobile phone owners in the population age 12+ from Arbitron/Edison Media Research, *The Infinite Dial 2007: Radio's Digital Platforms* at 3.

Estimate 2

- 1. Weekly hours of listening to satellite radio: Estimated as for Estimate 1.
- 2. Weekly hours of listening to terrestrial radio per listener and percentage of population 12+ listening to terrestrial radio in the past week from Arbitron, Radio Today, How America Listens to Radio: 2007 Edition at 90-91.
- 3. Estimate of U.S. population aged 12+ as of January 1, 2007 from Arbitron, Radio Nationwide Reference Guide (Fall 2006) at 4.

Estimate 3

1. Arbitron Press Release, Satellite Redio Channels Account for 3.4 Percent of All Radio Listening in Fall 2006 Arbitron Survey (February 27, 2007), evailable at http://onlinepressroom.net/arbitron/ (last visited July 5, 2007). Satellite radio listening was allocated between XM and Sirius in the proportion of their subscribers (as reported in each company's Form 10-K for 2006). The remaining 96.6% was attributed to terrestrial radio although it includes some hours of listening to simulcast AM/FM channels on the internet.